

- sea cucumbers, *Holothuria scabra*. Aquaculture 178:293–322.
- Becker P., Gillan D., Lanterbecq D., Jangoux M., Rasolofonirina R., Takotovao J. and Eeckhaut I. 2004. The skin ulceration disease in cultivated juveniles of *Holothuria scabra* (Holothuroidea, Echinodermata). Aquaculture 242:13–30.
- Conand C. 1998. Holothurians. p. 1157–1190. In: Carpenter K.E. and Niem V.H. (eds). The living marine resources of the Western Central Pacific, Volume 2: Cephalopods, crustaceans, holothurians and sharks. FAO Species Identification Guide for Fishery Purposes. FAO, Rome. 1396 p.
- Eeckhaut I., Parmentier E., Becker P., Gomez da Silva S., Jangoux M. 2004. Parasites and biotic diseases in field and cultivated sea cucumbers. p. 311–325. In: Lovatelli A., Conand C. Purcell S., Uthicke S., Hamel J.-F. and Mercier A. (eds). Advances in sea cucumber aquaculture and management. FAO Fisheries Technical Report No. 463, FAO, Rome. 425 p.
- Hamel J.-F., Conand C., Pawson D. and Mercier A. 2001. The sea cucumber *Holothuria scabra* (Holothuroidea: Echinodermata): its biology and exploitation as beche-de-mer. Advances in Marine Biology 41:129–223.
- Kinne O. 1980. Diseases of Marine Animals: General Aspects. p. 13–73. In: O. Kinne (ed). Diseases of Marine Animals. John Wiley & Sons, Chichester, New York.
- Wang, Y.G., Zhang C.Y., Rong X.J., Chen J.J. and Shi C.Y. 2004. Diseases of cultured sea cucumber, *Apostichopus japonicus*, in China. p. 297–310. In: Lovatelli A., Conand C. Purcell S., Uthicke S., Hamel J.-F. and Mercier A. (eds). Advances in sea cucumber aquaculture and management. FAO Fisheries Technical Report No. 463, FAO, Rome. 425 p.

An incidence of parasitic infestation in *Holothuria atra* Jaeger

M.K. Ram Mohan¹ and D.B. James²

The reproductive cycle of the sea cucumber *Holothuria atra* was studied at Tuticorin, on the southeast coast of India (8°45'N, 78°12'E). Specimens were collected from Tuticorin Bay from November 1997 to April 1999. Collected specimens were cut open by making an incision through the anal portion to open up the coelom, exposing the viscera (including gonads) for the purpose of studying the gonadal reproductive stage. During the course of study, two parasitic gastropods were found in the cloacal chamber of one specimen, which was at an indeterminate stage of sexual maturity.

This gastropod, according to Waren (1983), belongs to the genus *Megadenus* sp. The classification is as follows: Class: Gastropoda; Subclass: Prosobranchia; Order: Caenogastropoda; Superfamily: Eulimoidea; Family: Eulimidae; Genus: *Megadenus*.

The parasites, which were noticed during September 1998, were embedded in the wall tissue of the cloacal chamber. The shell breadths of the gastropods were 2.8 mm and 2.2 mm, the smaller one being the male. The sea cucumber weighed 160 g. During the study, a total of 994 specimens were examined, and infestation of parasites in the cloacal chamber was found in only one animal. Hence, it could be assumed that about 0.1% of the population was infested by the above-mentioned parasite.

Jones and James (1970) reported a gastropod parasite, *Stilifer* sp., from the cloacal chamber of *H. atra*. They recovered 13 gastropods from 8 infested specimens, after examining 1359 specimens. The infestation rate was 0.58%. Further studies on the physiological implications of parasitic infestations are required, as effects such as castration could affect and influence the parameters of the sea cucumber population in a particular locality.

References

- Jones S. and James D.B. 1970. On the stiliferid gastropod in the cloacal chamber of *Holothuria atra* Jaeger. Proceedings of the Symposium on Mollusca Organised by CMFRI, Cochin, India. Pt. 3:799–804.
- Ram Mohan M.K. 2001. Annual reproductive cycle of *Holothuria (Halodeima) atra* Jaeger (Holothuroidea: Aspidochirota) at Tuticorin, Southeast coast of India. PhD thesis, Central Institute of Education, Mumbai, India. 111 p.
- Waren A. 1983. A generic version of the family Eulimidae (Gastropoda, Prosobranchia). Supplement 13, Journal of Molluscan Studies. 53–54.

1. Assistant Director, Marine Products Export Development Authority, Veraval-362 269, Gujarat, India
2. Principal Scientist (Retd), No. 37, Sadsivam Mehta Street, Mehta Nagar, Chennai-29, India